

ATTORNEY DOCKET NO: 70266

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : BIAZZI
Serial No :
Filed : July 25, 2001
For : METHOD AND INSTRUMENT...
Dated : July 25, 2001

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to initial examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend claim 3 as follows:

3. (ONCE AMENDED) Method according to claim 1, in which the illumination of the fabric or similar is carried out with single impulses and the acquisition of the images is synchronized with said impulses.

Please amend claim 4 as follows:

4. (ONCE AMENDED) Method according to claim 1, in which the fabric or similar is fixed.

Please amend claim 5 as follows:

5. (ONCE AMENDED) Method according to claim 1, in which the fabric or similar is movement.

Please amend claim 6 as follows:

6. (ONCE AMENDED) Sensor for determining the angles of oblique and arched distortion of a fabric or similar according to claim 1, characterized by the fact of including within a single functional unit:

focusing optics of the area to be examined;

an impulse illuminator;

an illuminator control circuit for commanding the duration of the illumination; and

an integrated acquisition, processing and communication unit.

Please amend claim 8 as follows:

8. (ONCE AMENDED) Faller device intended for the treatment of the textile fabric or similar, by means of actuators for controlling correction of the distortion angles, characterized by at least one sensor according to claim 6 for detecting the local deformations and by a supervision and control system for acquiring and processing the values of said local deformations, and for controlling the actuators of the faller machine.

Please amend claim 9 as follows:

9. (ONCE AMENDED) The use of the method and the sensor in claim 1 in

machines for controlling and certifying the defects in textile fabrics or similar.

Please add the following new claims:

10. (NEW) Method according to claim 2, in which the illumination of the fabric or similar is carried out with single impulses and the acquisition of the images is synchronized with said impulses.

11. (NEW) Method according to claim 2, in which the fabric or similar is movement.

12. (NEW) Method according to claim 3, in which the fabric or similar is movement.

13. (NEW) Faller device intended for the treatment of the textile fabric or similar, by means of actuators for controlling correction of the distortion angles, characterized by at least one sensor according to claim 7 for detecting the local deformations and by a supervision and control system for acquiring and processing the values of said local deformations, and for controlling the actuators of the faller machine.

14. (NEW) The use of the method and the sensor in claim 2 in machines for controlling and certifying the defects in textile fabrics or similar.

15. (NEW) The use of the method and the sensor in claim 3 in machines for controlling and certifying the defects in textile fabrics or similar.

16. (NEW) The use of the method and the sensor in claim 4 in machines for controlling and certifying the defects in textile fabrics or similar.

17. (NEW) The use of the method and the sensor in claim 5 in machines for controlling and certifying the defects in textile fabrics or similar.

18. (NEW) The use of the method and the sensor in claim 6 in machines for controlling and certifying the defects in textile fabrics or similar.

19. (NEW) The use of the method and the sensor in claim 7 in machines for controlling and certifying the defects in textile fabrics or similar.

20. (NEW) The use of the method and the sensor in claim 8 in machines for controlling and certifying the defects in textile fabrics or similar.

REMARKS

Claims 1 through 20 are in this application and are presented for consideration. Claims 3 - 6, 8 and 9 have been amended. The amended claims present the same subject matter as the original claims but have been amended to adapt them to the U. S. style. The

new claims present subject matter similar to the original claims, but in a different form.


The claims have been amended in order to place this application in better form.

No new matter has been added.

Favorable action on the merits is respectfully requested.

Respectfully submitted
for Applicant,

By:


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JJM:aes
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Enclosed: Version of Claims Showing Changes

DATED: July 25, 2001
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McGLEW AND TUTTLE, P.C.
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BY: Jonilana Sente DATE: July 25, 2001

CLAIMS

1. Method for determining the angles of oblique and
arched distortion of a textile fabric or similar, with
the use of at least one optical detector with axes of
symmetry orientated with respect to the fabric,
characterised by the following steps:
- impulse illumination of an area of the fabric or
similar with a light source;
 - acquisition, in digital form, of a real image of an
area of the fabric or similar, irrespectively of the
orientation of said optical detector with regard to
the fabric, with illumination of said fabric for just
the time necessary to acquire the image;
 - rotation of the image and compensation for the
orientation of the axes of symmetry of the optical
detector with regard to the fabric;
 - storing of said image on memory devices inside
the optical detector;
 - application to said image of algorithms useful for
increasing the reliability of the results of
subsequent processing;
 - application of the two-dimensional Fourier
transformation to the recorded image;
 - calculation of the angle of local distortion by
analysis of the two-dimensional spectrum of the

Fourier transformation; and

- calculation of the angles of oblique and arched distortion, starting from the angles of local distortion.

2. Method according to claim 1, where the value of the local angle is generated only on the request of a central supervision and control system.

3. Method according to claim 1 ~~or 2~~, in which the illumination of the fabric or similar is carried out with single impulses and the acquisition of the images is ^{synchronized} ~~synchronised~~ with said impulses.

4. Method according to ~~any of the previous claims~~ ^{claim 1}, in which the fabric or similar is fixed.

5. Method according to ~~any of the claims 1-3~~ ^{claim 1}, in which the fabric or similar is in movement.

6. Sensor for determining the angles of oblique and arched distortion of a fabric or similar according to ~~any of the previous claims~~ ^{claim 1}, characterised by the fact of including within a single functional unit:

- ^{focusing} ~~focussing~~ optics of the area to be examined;
- ^{an} ~~An~~ impulse illuminator;
- ^{an} ~~An~~ illuminator control circuit for commanding the duration of the illumination; and
- ^{an} ~~An~~ integrated acquisition, processing and communication unit.

7. Sensor according to claim 6, in which the integrated acquisition, processing and communication unit includes a static matrix photosensitive device.

5 8. Faller device intended for the treatment of the textile fabric or similar, by means of actuators for controlling correction of the distortion angles, characterized
characterised by at least one sensor according to ^{claim 6}
~~claims 6 and 7~~ for detecting the local deformations
10 and by a supervision and control system for acquiring and processing the values of said local deformations, and for controlling the actuators of the faller machine.

15 9. The use of the method and the sensor in ^{claim 8}
~~claims 1-8~~ in machines for controlling and certifying the defects in textile fabrics or similar.

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